UNIT IV

ADDITIONAL TOPICS

Module 2

SUSTAINING THE ANALYSIS

SUSTAINING THE ANALYSIS

Module Preview:

Introduction

- **Introduction**
- **Sustaining Overview**
- **Sustaining Tasks**
- **Review and Summary**

SUSTAINING THE ANALYSIS

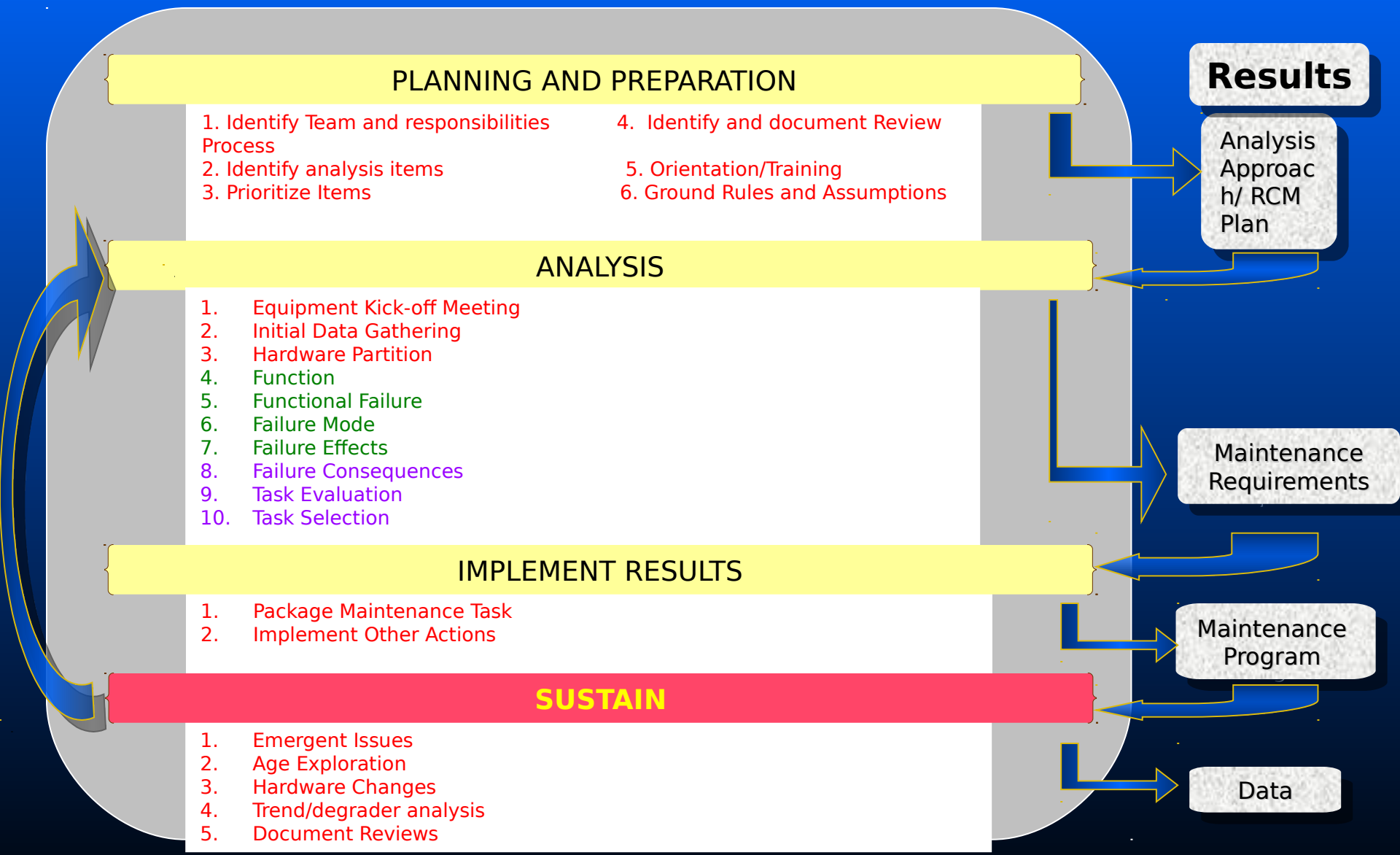
Module Objective:

Introduction

This module is designed to provide information on sustaining an RCM analysis

1. **Identify the purpose and benefit of sustaining an RCM analysis**
2. **Introduce the two approaches to sustaining RCM**
3. **Identify the various tasks that may be used to sustain an RCM analysis**

Sustaining Overview



SUSTAINING THE ANALYSIS

Purpose | **Sustaining Overview**

The objective of the sustainment process is to continually monitor and optimize the current PM program to:

- **Improve the overall efficiency and effectiveness of the RCM and PM Program**

By:

- **Deleting unnecessary requirements or adjusting intervals**
- **Identifying adverse failure trends**
- **Addressing new Failure Modes**
- **Recognizing the opportunity for insertion of new maintenance procedures, techniques, design changes, and tools**

SUSTAINING THE ANALYSIS

Approaches | Sustaining Overview

Sustaining Approaches:

- Continuous (Recommended)
  - Fastest response to new issues
  - RCM becomes a way of doing business
  - Requires a “Champion”
- Periodic RCM Reviews
  - May be preempted by “more important” issues
  - Data/history may be lost between reviews
  - May cause the sustainment effort to stagnate
  - May require re-justification of resources
  - Should only be used if resources do not permit continuous sustainment

SUSTAINING THE ANALYSIS

Tasks

Sustaining Tasks

Typical Sustaining Tasks:

- Emergent Issue Resolution
- Age Exploration
- Hardware Changes/New equipment
- Degrader analysis
- Trend Analysis
- PM Document/Task Reviews

SUSTAINING THE ANALYSIS

Emergent Issues

Sustaining Tasks

- **An RCM Program must establish a process to deal with emergent issues and unpredicted events. Elements may include:**
  - **Problem Assessment**
  - **Interim Action**
  - **RCM Review and update**
  - **Corrective Action**

- **The emergent issue resolution process may incorporate or interface with other processes such as Root Cause Analysis**

- **Process may vary by organization and should be formally documented**

SUSTAINING THE ANALYSIS

Age Exploration

Sustaining Tasks

A formal process should be put in place that provides for the collection and analysis of the data generated by RCM recommended Age Exploration tasks.

- **Processes will vary greatly by organization depending on: available data systems, size of organization, etc.**

SUSTAINING THE ANALYSIS

Hardware Changes

Sustaining Tasks

Any change to equipment configuration or added or removed equipment should drive a review of the RCM analysis.

SUSTAINING THE ANALYSIS

Top Degrader Analysis

Sustaining Tasks

Top Degrader ranking identifies items that are having the highest operational or cost impact.

Top degrader identification methods:

- **3M/CMMS (most common)**
- **Operator/maintainer input or records**
- **Any other means that tracks failures, costs, or down-time**

Top degrader metrics may include:

- **Maintenance man-hours**
- **Maintenance man-hours per operating hour**
- **Number of Failures**
- **Down-time**
- **Cost**

SUSTAINING THE ANALYSIS

Trend Analysis

Sustaining Tasks

Trend Analysis provides an indication of systems or components that may be problems in the future or may be deviating from expected performance.

Trend Analysis are typically performed using statistical measures such as mean and standard deviations to establish performance baselines and comparing current performance levels to established control levels.

- **Usually requires automated failure data (3M/CMMS)**
- **Other Statistical Process Control (SPC) processes already in place may be used as a trigger for**

SUSTAINING THE ANALYSIS

PM Reviews

Sustaining Tasks

Periodic reviews of PM requirements (whether stored electronically or on paper) should be accomplished for:

- **Outdated or obsolete maintenance processes, techniques, tools or technology**
- **Opportunities to incorporate new technology or tools**
- **Obsolete, unavailable, or banned consumable materials**
- **Conformance to RCM recommendations**

SUSTAINING THE ANALYSIS

Conclusion

Sustaining Tasks

- **RCM requires sustaining to realize maximum benefits**
- **RCM sustaining processes and procedures should be developed and formally documented for each organization implementing an RCM Program**

SUSTAINING THE ANALYSIS

Review and Summary

- **Module Objective**
  - **Provide a basic understanding RCM sustaini**
- **Introduction**
  - **Learning Objectives**
- **Sustaining Overview**
  - **Sustaining Purpose/description**
- **Sustaining Tasks**
  - **Emergent Issue Resolution**
  - **Age Exploration**
  - **Hardware Changes/New equipment**
  - **Degrader analysis**
  - **Trend Analysis**
  - **PM Document/Task Reviews**

End of Module

up next.....

Data Considerations